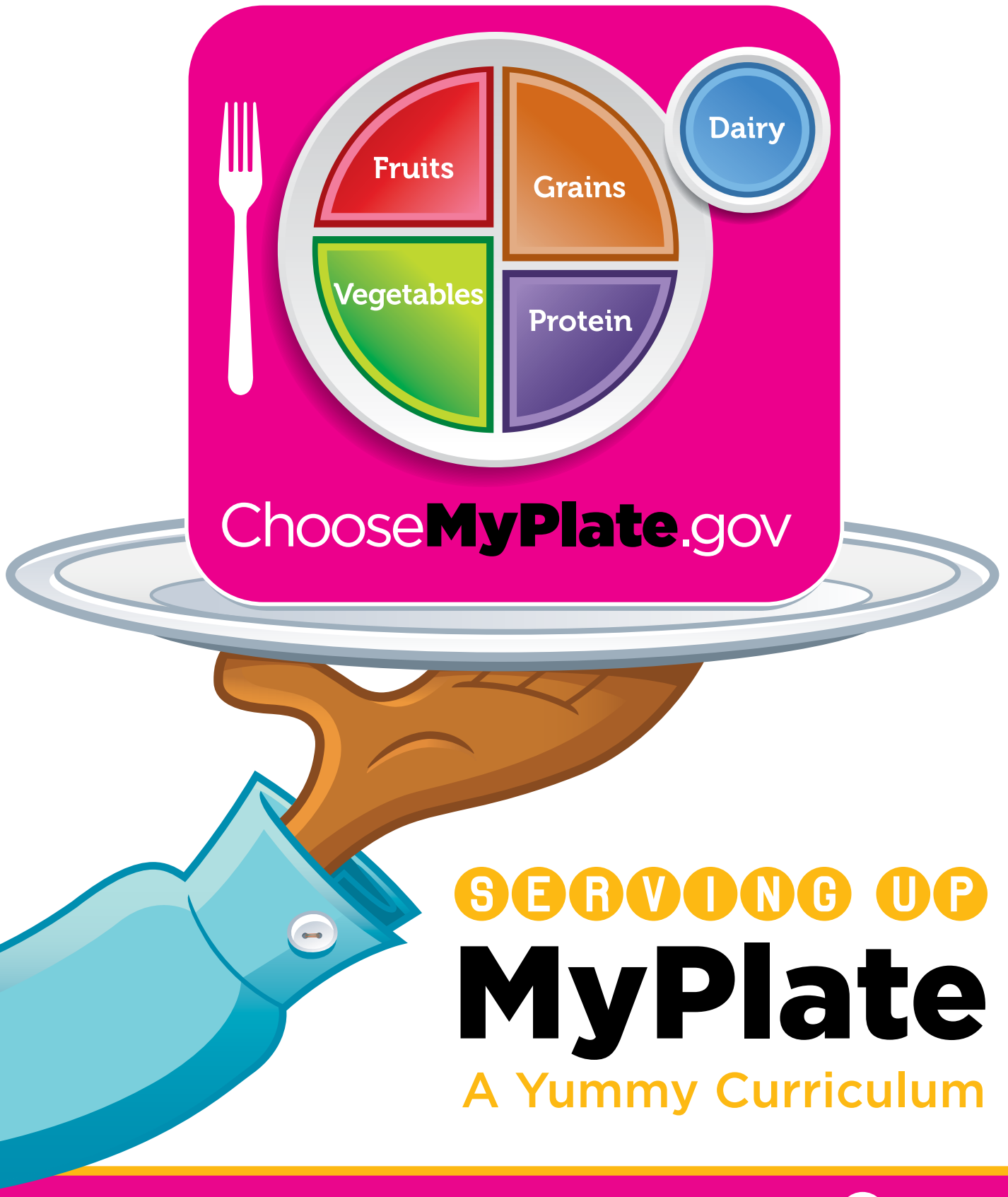


LEVEL 2

Grades 3 & 4



S E R V I N G U P

# MyPlate

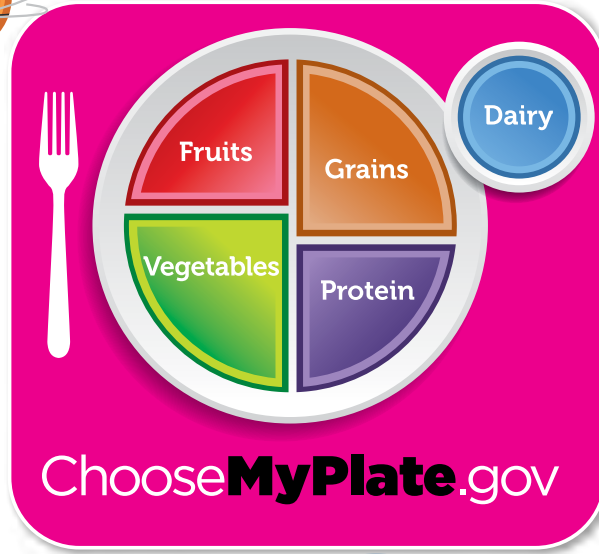
A Yummy Curriculum



Standards-Based Nutrition Education



# SERVING UP MyPlate



## Fruits: Fuel Up With Fruits at Meals or Snacks

Pears, watermelon, plums, raisins, berries, and applesauce (without extra sugar) are just a few of the great choices. Make sure your fruit juice is 100% juice.



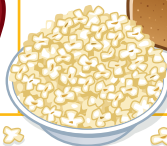
## Vegetables: Color Your Plate With Great- Tasting Veggies

Try to eat more dark-green, red, and orange vegetables, and beans and peas.



## Grains: Make at Least Half Your Grains Whole Grains

Choose whole-grain foods, such as whole-wheat bread, oatmeal, whole-wheat tortillas, brown rice, and popcorn, more often.



## Protein: Vary Your Protein Foods

Try fish, shellfish, beans, and peas more often. Some tasty ways include a bean burrito, hummus, veggie chili, fish taco, shrimp stir-fry, or grilled salmon.



## Dairy: Get Your Calcium-Rich Foods

Choose fat-free or low-fat milk, yogurt, and cheese at meals or snacks. Dairy foods contain calcium for strong bones and healthy teeth.



## Keep on Moving!

Kids need at least 60 minutes of physical activity every day. Whether that's running, biking, tossing a ball, or playing tag, every little bit counts. So, run around at recess, jump rope with friends, ride your scooter, or play a sport. It all adds up!



## Know Your "Sometimes" Foods

Look out for foods with added sugars or solid fats, such as candy, cake, cookies, chips, ice cream, soda, fruit punch, lemonade, hot dogs, and bacon. They fill you up so that you don't have room for the foods that help you eat smart and play hard. Enjoy these every once in a while, not every day.



# LETTER TO Teachers

## Dear Teacher,

What are healthy food choices? What is a balanced diet? The U.S. Department of Agriculture's Food and Nutrition Service is providing these lessons under its Team Nutrition initiative in order to help teachers integrate nutrition education into Math, Science, English Language Arts, and Health. This yummy curriculum introduces the importance of eating from all five food groups using the new **MyPlate** icon and a variety of hands-on activities. Students will also learn the importance of physical activity to staying healthy.

In this Teacher's Guide, you'll find three inquiry-driven lessons that help 3<sup>rd</sup> and 4<sup>th</sup> grade children discover nutrition, explain their understandings, and reflect upon their experiences — all of which encourage a lasting awareness of what it means to be healthy. In addition to subject-driven learning, each lesson offers valuable and easy-to-implement cafeteria activities and home connections. We encourage you to include these in your planning, as they will provide your students with further practice and real-world experience. Let parents know what their children will be learning about in class so they can support these new skills at home.

You will also find:

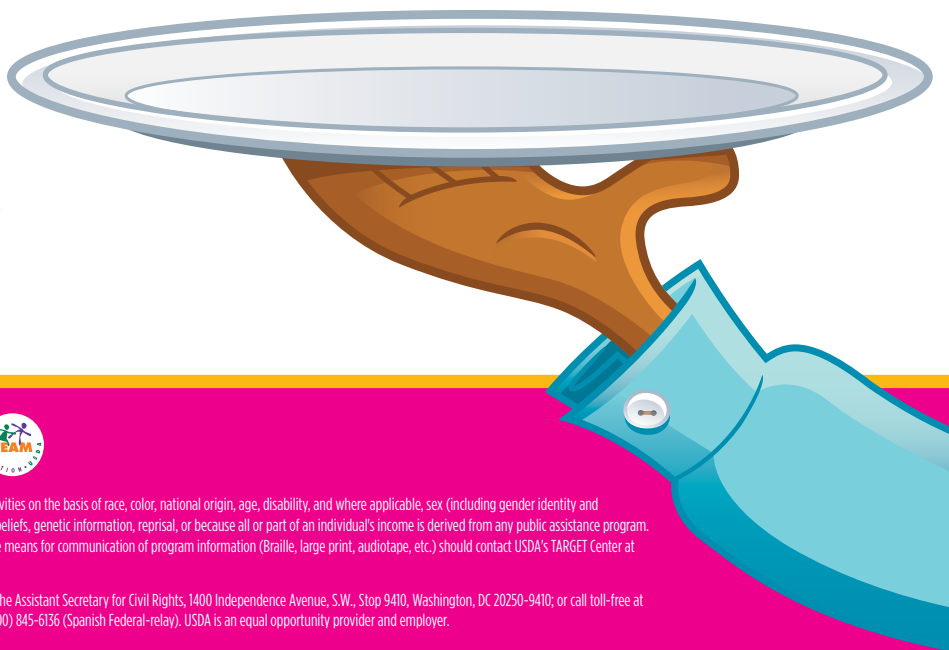
- **A Pacing Guide:** time required per activity and recommended pacing to help you plan each lesson
- **Teacher's Morsels:** helpful resources, background, and tips
- **Extra Helpings:** ideas on how to extend the learning beyond the lesson
- **Savor the Learning:** valuable ways to connect the learning to the school cafeteria and/or students' homes to provide real-world practice
- **Student Handouts:** easily reproducible handouts designed to appeal to students while reinforcing lesson objectives

- **Three Original Songs:** *Alive With 5 Food Groups* and *Do/Be* help students learn about healthy choices in an engaging and memorable way and are incorporated into the lessons. Dancing and singing along to an additional song called *Do Your Body Right* may be a fun extension activity in the third lesson. We invite you to listen to it ahead of time to determine whether your class would enjoy it. All of the songs are provided on the enclosed CD, along with the lyrics, and may be downloaded at <http://teamnutrition.usda.gov/myplate.html>.
- **Eat Smart To Play Hard With MyPlate Poster:** a two-sided poster showing the **MyPlate** icon and foods in the five food groups. The blank **MyPlate** on the reverse can be used as a tool to assess students' understanding.
- **MyPlate at Home:** a colorful handout to share with parents that reinforces the lesson at home. It's also available in Spanish. Additional copies are free for schools at <http://teamnutrition.usda.gov/myplate.html>.

We hope you and your students enjoy the process of learning how to make healthy choices. It's an education that will last a lifetime!

Sincerely,

**Your Friends at Team Nutrition**



**United States Department of Agriculture**  
Food and Nutrition Service • FNS-445  
September 2012



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Lesson Title	Essential Question	Learning Objectives	Student Handouts
<p><b>First Course: We Are What We Eat</b></p> <p><b>Time Required:</b> Session 1 (60 minutes) Session 2 (40 minutes) Session 3 (30 minutes)</p>	<p>What choices can you make that help you stay healthy?</p>	<p><i>Students will be able to...</i></p> <ul style="list-style-type: none"> <li>Identify the five main food groups and name a variety of nutritious examples of foods in each.</li> <li>Explain how <b>MyPlate</b> serves as a reminder for how to eat a healthier meal.</li> <li>Create and describe a healthy meal containing a food from each food group.</li> <li>Discuss the importance of physical activity as part of a healthy lifestyle.</li> </ul>	<ol style="list-style-type: none"> <li><i>Who Am I? Clue Card</i></li> <li><i>Food Writer</i></li> </ol>
<p><b>Second Course: You Be the Chef</b></p> <p><b>Time Required:</b> Session 1 (40 minutes) Session 2 (40 minutes) Session 3 (40 minutes)</p>	<p>Why is it important to eat a variety of foods from all food groups?</p>	<p><i>Students will be able to...</i></p> <ul style="list-style-type: none"> <li>Identify what foods to eat more of, and explain that nutrients in food help us grow and stay healthy.</li> <li>Name at least three reasons why it is important to eat foods from all five food groups for a healthy diet.</li> <li>Apply their knowledge of healthy foods and food groups to create a healthy meal or snack.</li> </ul>	<ol style="list-style-type: none"> <li><i>Snack of Champions</i></li> <li><i>Measuring Up MyPlate</i></li> </ol>
<p><b>Third Course: The Science of “Sometimes” Foods</b></p> <p><b>Time Required:</b> Session 1 (50 minutes) Session 2 (50 minutes) Session 3 (40 minutes)</p>	<p>What are “sometimes” foods? Why are they called that? What can I eat instead?</p>	<p><i>Students will be able to...</i></p> <ul style="list-style-type: none"> <li>Identify foods that are high in solid fats and added sugars.</li> <li>Describe the benefits of limiting the consumption of solid fats and added sugars.</li> <li>Explain the concept of eating in moderation.</li> <li>Give examples of healthier food options to choose instead.</li> </ul>	<ol style="list-style-type: none"> <li><i>Experiment: Fats</i></li> <li><i>Experiment: Added Sugars</i></li> </ol>





# TABLE OF Contents

Lesson Title	Standards Met*
<p><b>First Course: We Are What We Eat</b></p>	<p><b>English Language Arts:</b> Language Standards: Conventions of Standard English (3.2, 4.2): <i>Demonstrate command of the conventions of standard English grammar and usage when writing or speaking</i>; Vocabulary Acquisition and Use (3.5, 4.5): <i>Demonstrate understanding of word relationships and nuances in word meanings</i>; Conventions of Standard English (3.2, 4.2): <i>Demonstrate reading standards for informational text</i> (3.2, 4.2): <i>Determine the main idea of a text and explain how it is supported by key details; summarizing the text</i>; Writing Standards (3.1, 4.1): <i>Write opinion pieces on topics or texts, supporting a point of view with reasons</i>; Speaking and Listening Standards (3.1, 4.1): <i>Engage effectively in a range of collaborative discussions with diverse partners, building on others' ideas and expressing their own clearly.</i></p> <p><b>Science:</b> Standard (A): <i>Understandings about Scientific Inquiry: Classifying Objects.</i></p> <p><b>Health:</b> Standard (8.5.1): <i>Encourage others to make positive health choices</i>; Standard (6.2.1): <i>Identify a short-term personal health goal and take action toward achieving the goal.</i></p>
<p><b>Second Course: You Be the Chef</b></p>	<p><b>English Language Arts:</b> Speaking and Listening Standards (3.1, 4.1): <i>Participate in collaborative conversations with diverse partners</i>; Writing Standards (3.2, 4.2): <i>Write informative/explanatory texts to examine a topic and convey ideas and information clearly.</i></p> <p><b>Health:</b> Standard (1.5.1): <i>Describe the relationship between healthy behaviors and personal health</i>; Standard (5.5.5): <i>Choose a healthy option when making a decision</i>; Standard (6.2.1): <i>Identify a short-term personal health goal and take action toward achieving the goal.</i></p> <p><b>Science:</b> Standard (F): <i>Personal Health: Nutrition is essential to health. Students should understand how various foods contribute to health.</i></p> <p><b>Math:</b> Numbers and Operations (3, 4): Fractions: <i>Develop understanding of fractions as numbers.</i></p>
<p><b>Third Course: The Science of “Sometimes” Foods</b></p>	<p><b>English Language Arts:</b> Reading Standards for Information Text (4.7): <i>Interpret information presented visually, orally, or quantitatively (Meal 2)</i>; Writing Standards (4.2): <i>Write informative/explanatory texts to examine a topic and convey ideas and information clearly.</i></p> <p><b>Science:</b> Standard (A): <i>Understandings about Scientific Inquiry. Communicate investigations and explanations. Use data to construct a reasonable explanation. Use simple equipment and tools to gather data and extend the senses</i>; Standard (F): <i>Students should understand how the body uses food and how various foods contribute to health.</i></p> <p><b>Health:</b> Standard (1.5.1): <i>Describe the relationship between healthy behaviors and personal health.</i></p> <p><b>Math:</b> Numbers and Operations (4): <i>Use place value understanding and properties of operations to perform multi-digit arithmetic</i>; Measurement and Data (4): <i>Represent and interpret data.</i></p>

\*Sources: **English Language Arts** and **Math** standards – Common Core; **Science** education standards – National Academy of Sciences; **Health** standards – American Cancer Society



# Original Songs LYRICS



## Alive With 5 Food Groups

(Talking about the five food groups, what they are and what they help do)

Banana is a fruit, broccoli is a veggie  
Rice is a grain, chicken is a protein food  
Milk is dairy, and now we've got five  
We're going to feel our best (uh huh), we're going to feel alive!



### Chorus:

Alive, with five, both you and I  
Alive with five, let's give them a try  
Fruits and vegetables, dairy and grains  
Add to that a protein food and you'll be on your way!



So many fruits and vegetables are good for me  
Some help me heal my wounds, or give me more energy  
Sometimes I like to eat them with some meat, bread, and cheese  
These five food groups give me what I need, wouldn't you agree?

### Chorus

I've got a red apple (a fruit, a fruit)  
And green spinach leaves (a vegetable, a vegetable)  
I toasted up some bread (a grain, a grain)  
With some low-fat cheddar cheese (that's dairy, that's dairy)  
A few slices of turkey (a protein food, a protein food)  
That's a fine-looking plate (my plate, my plate)  
If you want to be healthy, if you want to feel your best  
These five food groups are the key to your success!

### Chorus



## Do/Be

### Chorus:

Nutrients are good for me  
Some help me do and some help me be  
Some help me run and jump and grow  
Others keep me feeling like a pro  
Nutrients are good for me  
Some help me do and some help me be  
Working all together to keep me healthy  
Those five food groups we learned about  
They've got nutrients we need  
To do things at our peak  
To be more healthy  
Some help give our skin a healthy glow  
Some help keep us from catching colds  
And others strengthen bones and muscles  
So round those bases we can hustle

### Chorus

That candy, cookies, soda, ice cream  
Sometimes we eat too much  
They don't have as many nutrients  
No, they don't have quite the touch  
So, how about we substitute  
The sweet stuff with a piece of fruit  
Because fruit's got the stuff we're talking about  
So many nutrients — there is no doubt

### Chorus



## Main Ingredients

### Recommended Pacing:

**Session 1** (60 minutes) — First Taste, Digging In (Part A)

**Session 2** (40 minutes) — Digging In (Part B)

**Session 3** (30 minutes) — Digesting It All

### Essential Question:

What choices can you make that help you stay healthy?

### Learning Objectives:

Students will be able to...

- Identify the five main food groups and name a variety of nutritious examples of foods in each.
- Explain how **MyPlate** serves as a reminder for how to eat a healthier meal.
- Create and describe a healthy meal containing a food from each food group.
- Discuss the importance of physical activity as part of a healthy lifestyle.

### Subject Connections:

English Language Arts, Science, Health

### Materials & Preparation:

- Index cards (to make food cards; one per student)
- Art supplies, tape, and poster boards
- Food magazines, journals, or cookbooks
- Computers with Internet access (optional)
- Computer, CD or MP3 player with speakers
- **Original Song & Lyrics:** *Alive With 5 Food Groups*
- **Student Reproducible 1:** *Who Am I? Clue Card*
- **Student Reproducible 2:** *Food Writer*
- **Eat Smart To Play Hard With MyPlate Poster** (display in the classroom)
- **MyPlate at Home** parent handouts

## We Are What We Eat

### What's Cooking?

In this first lesson, students are introduced to **MyPlate** and the importance of eating foods from the five food groups. Through interactive and engaging activities that meet curriculum standards in English Language Arts, Science, and Health, students will explore and model healthy behaviors.

### FIRST TASTE: Engage (30 minutes)

1. Begin by asking students to think about the **Essential Question**. First ask them to think about the word “health” and what it means to them, then about the word “choice.” What do they think it means to make a healthy choice? What do they think a healthy food choice would be? Accept all answers and take notes of student responses.
2. Ask students if they have heard of, can explain, or can identify any of the **food groups**. Introduce students to **MyPlate** and the five food groups (**Fruit, Vegetable, Grain, Protein Foods, Dairy**) by displaying the **MyPlate** poster. Invite students to share what they observe about the **MyPlate** icon. Can they identify and give examples of foods they think belong in each of the five food groups? Do they notice any differences in the food groups shown on the **MyPlate** icon? The portion sizes of each are slightly different because we need different amounts from each food group. For example, we need more vegetables than fruit. Students should also notice that our plates should be half fruits and vegetables.
3. Explain that the **MyPlate** icon serves as a reminder that a person should eat foods from the five food groups each day. By eating a variety of foods from each food group, we give our bodies what they need to be and stay healthy. Ask what other behavior can help us stay healthy? (*Being physically active at least 60 minutes a day*)





# TEACHER'S Morsel

4. Play the song *Alive With 5 Food Groups* for the class — the song introduces the five food groups and gives examples of foods in each. After students have had a chance to listen to it once, divide them into groups (ideally of five students). Tell them they will work together to create a dance routine to the song. Their challenge is to represent five foods that come from each food group on **MyPlate** (for example, they can act as a chicken for protein, or take the shape of a plant or fruit as a group), and develop movements that express how healthy choices can make them feel. Use the **MyPlate** poster as a reference. Ask students to use their five senses when thinking about how it feels to be healthy. Encourage them to use all parts of their bodies — legs, arms, fingers, toes, elbows, knees, heads, even facial expressions! Play the song two more times to let students create and practice their routines.
5. Have each group perform its dance routine with the song *Alive With 5 Food Groups*. Ask audience members to watch carefully and then guess what foods and healthy feelings were represented in the dance.
6. Finally, ask each student to share something new he or she learned so far about **MyPlate**, the song, and the five food groups. Go around the room asking each student to mention something new. List their responses on the board. When everyone has shared something, see if the class can think of anything else they learned.

## DIGGING IN: Explore, Explain

### Part A: Who Am I? (30 minutes)

7. To expand on students' vocabulary and awareness of different foods in each food group, play the *Who Am I?* game. In preparation, create enough food cards (using index cards) to have one per student. Each card should have the name of a specific food from each of the five food groups. Aim to have the same number of foods from each food group. Visit <http://www.chooseMyPlate.gov/food-groups> for examples of healthy food options from each food group. Include dark-green, red, and

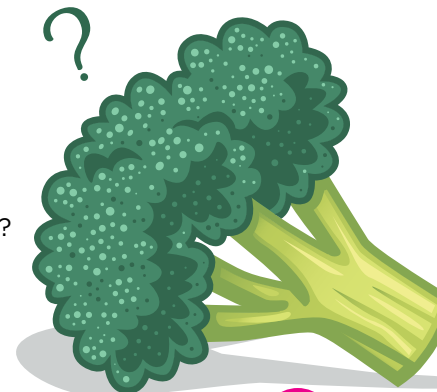
**Food Group Posters:** Visit <http://www.chooseMyPlate.gov/food-groups> to find samples of healthy options in each food group. Have students create five posters listing examples of foods from each group, and display them in the classroom. Encourage students to include foods they have never tried.

**Move!** Children should engage in at least 60 minutes of physical activity each day, but most people are not as physically active as they should be. Ask students to come up with activities that would inspire them to move more. Display these on a poster. Collaborate with the physical education teacher to find ways to get your class moving, or to think of physical activity challenges (such as a field day, obstacle course, or a dance-off). Visit <http://www.chooseMyPlate.gov/physical-activity.html> to learn more.

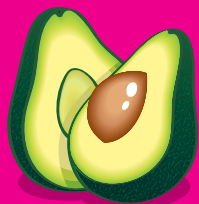
orange vegetables, beans and peas, whole grains, seafood, and fat-free or low-fat milk among the foods represented.

8. Explain to students that they will play the game *Who Am I?* and will need to guess what food they are by asking classmates “Yes” or “No” questions. Distribute the *Who Am I? Clue Card* handout. They will use it to keep track of their questions and clues in the game. Have students spend a few minutes quietly thinking of yes or no questions they can ask and writing them down on their handout. Read some of the following examples of yes or no questions out loud to students to help them get started:

- Am I a vegetable?
- Am I a protein food?
- Am I round?
- Am I green?
- Am I made from wheat?
- Do I grow on a tree?
- Do I live in the sea?
- Do I taste spicy?







# TEACHER'S Morsel

- Am I juicy?
- Am I a drink?
- Do I have seeds?
- Do I sound crunchy when you eat me?
- Do you eat me for breakfast?

Are there any additional questions students can come up with before they begin the game? Encourage students to think with their five senses: Taste, Smell, Sight, Sound, and Touch.

- Next, tape one food card to the back of each student without them seeing what it says. Give students 15 - 20 minutes to play the game. Tell students to walk around the room to ask each other questions. If they receive a "no" as an answer, they should move on to a new person. Once they guess their food correctly, have students sit down. They may enlist your help if they are having trouble guessing.
- Once students have all guessed their foods, ask students to group themselves together to create a meal following **MyPlate**. What foods might taste good together? What are some other healthy options they learned about? Were there any new foods they learned about? Also, don't forget to include fat-free or low-fat dairy foods, such as milk and yogurt.

## Part B: Food Writers (40 minutes)

- Next, explain to students that they have been hired by a food magazine to write a one- to two-page article about a new food. The article should:
  - Teach readers about the food by identifying its food group.
  - Inspire readers to try the food by describing it using the five senses.
  - Provide readers with at least two ways to cook or prepare the food from their research.
  - And finally, build a healthy plate that includes the food. What other foods could a reader serve it with to make it a complete meal (following **MyPlate**)?

**Food Writer Resources:** If you have Internet access, explore these online resources. If not, collect examples of food articles and recipes ahead of time for students to reference:

**MyPlate** food group information:

<http://www.chooseMyPlate.gov/food-groups>

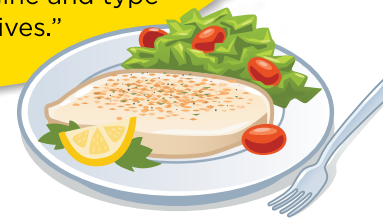
Sample menus and recipes:

<http://www.chooseMyPlate.gov/healthy-eating-tips/sample-menus-recipes.html>

Recipes for Healthy Kids:

<http://www.fns.usda.gov/tn/Resources/r4hk.html>

Use a search engine to find real-world examples of food articles. Try typing in "Food Magazines" or "Cooking Articles." There are many resources online to help you learn the vocabulary to describe foods. Use a search engine and type in "Food Adjectives."



You may let students choose a new food they don't know much about, or they may want to use their foods from the *Who Am I?* game. As a variation, collect all the cards and have students select a new food card.

- First, students will need to do a bit of research to learn more about how to write a food article, and to learn about their food item. Distribute the *Food Writer* handout. Have students read examples of food articles before they begin to write their own. Look at food magazines, recipe books, and food blogs online (if you have Internet access). Have students work in pairs to discuss the structure and elements of a food article. What kind of language does the writer use? Does the article inspire them to want to try the food or a recipe? If recipes are included in the article, what food groups are represented in the finished product? For example, a soup might include vegetables, grains, and protein.
- Encourage students to use new vocabulary and descriptive language as they write their articles. How can they describe the food to someone who can't see it? How can they persuade someone





# FOOD FOR Thought

to try it? Ask students to share and present their food articles to the class.

## DIGESTING IT ALL: Explain, Evaluate (30 minutes)

14. Ask students to think about and answer the **Essential Question** again: What choices can you make that help you stay healthy? Allow students time to answer.
15. As a final reflection, have students do a *Think-Pair-Share* to come up with tips to eat smart and play hard (answering the **Essential Question**). First, ask each student to think about a healthy food selection from each food group and fun ways to be more physically active. Then, working in pairs, have students work together to create a list of ways they can “eat smart” and “play hard,” incorporating their food group choices and fun physical activity ideas. For example, “Snack like a soccer star. Eat an orange after practice.”
16. Ask each pair to share its tips with the rest of the class. List student ideas on the board or have students create mini-posters to display on a bulletin board.

## SAVOR THE LEARNING: Elaborate

### Cafeteria:

- Create posters from the final reflection activity to share your students’ healthy food tips with the rest of the school, and display in the cafeteria.
- Analyze the menus from the cafeteria for 1 week. Identify what foods belong to which food groups. Provide three more options for each food item. If the menu is missing options that students like from a specific food group, suggest alternative menu items.

### At Home:

- Send home the **MyPlate at Home** parent reproducible. Encourage students to help their families plan meals using **MyPlate** as a guide.
- Assemble the food articles into a class *Healthy Food Journal* for students to take home and share with their families for ideas of new foods to try at home.

- Foods like candy bars, soda, butter, jelly, and cream cheese do not belong to any of the five food groups because they are mostly sugar or fat and contain few nutrients.

- Not every meal or snack has to have a food from all five food groups, but try to eat a variety of foods from all groups each day. If your breakfast is missing a vegetable, have it as a snack, such as carrot sticks.



## EXTRA HELPINGS: Elaborate

(15 minutes each)

**Food Art:** For students who complete their food writer articles early, or if you have time, have students draw a picture or create a collage to go along with their article. They may create artwork depicting either a particular food item or the full meal they write about in their article. Encourage them to follow **MyPlate** as a guide and to use a colorful variety of materials to create their food art.

**Veggie Variety:** Have students work in teams to sort vegetable food cards (developed for the *Who Am I?* activity) into the vegetable subgroups:

- **Dark-Green** (e.g., broccoli, spinach, romaine lettuce, bok choy, collard greens)
- **Red and Orange** (e.g., acorn or butternut squash, carrots, pumpkin, red peppers, sweet potatoes, tomatoes)
- **Beans and Peas** (e.g., chickpeas/garbanzo beans; lentils; black, kidney, navy, or pinto beans)
- **Starchy** (e.g., corn, green peas, green lima beans, plantains, potatoes)
- **Other** (e.g., celery, cucumbers, green beans, green peppers, iceberg lettuce, zucchini)

Explain that most people need to eat more vegetables from the Dark-Green, Red and Orange, and Beans and Peas subgroups. Ask students to name some of their favorites from these subgroups. Have a veggie-tasting activity to try new dark-green, red, and orange vegetables, and beans and peas!

# WHO AM I? Clue Card

FIRST COURSE • REPRODUCIBLE 1



Name: \_\_\_\_\_ Date: \_\_\_\_\_

You will now play the *Who Am I?* game, where you will gather clues about what food item you are. Write down 10 questions you want to ask. Your questions should be answered with a yes or no. Then keep track of your clues. Can you figure out who you are?

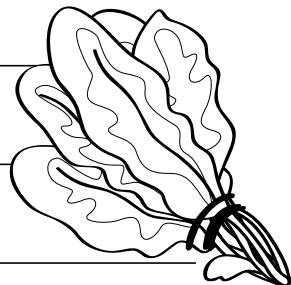
## 10 Questions:

1. \_\_\_\_\_ yes no
2. \_\_\_\_\_ yes no
3. \_\_\_\_\_ yes no
4. \_\_\_\_\_ yes no
5. \_\_\_\_\_ yes no
6. \_\_\_\_\_ yes no
7. \_\_\_\_\_ yes no
8. \_\_\_\_\_ yes no
9. \_\_\_\_\_ yes no
10. \_\_\_\_\_ yes no

Who am I? \_\_\_\_\_

What food group do I belong to? \_\_\_\_\_

What other foods can I be eaten with? \_\_\_\_\_



# Food WRITER

FIRST COURSE • REPRODUCIBLE 2



Name: \_\_\_\_\_ Date: \_\_\_\_\_


You are a writer who has been hired by a famous food magazine to write a one- to two-page article about a new food! Your article must:

- a. Teach readers about the food by identifying its food group.
- b. Inspire readers to try the food by describing it using the five senses.
- c. Provide readers with at least two ways to cook or prepare the food.
- d. Build a healthy plate that includes the food. What other foods could a reader serve it with to make it a complete meal (following **MyPlate**)?

You may need to do some research online or in the library or look through some cookbooks or food magazines for inspiration and information. Use the space below to gather information to help you write your article. You may type your article using a computer or write it neatly by hand. Describe with the five senses (use descriptive adjectives).

It looks like: \_\_\_\_\_ 


It feels like: \_\_\_\_\_ 

It tastes like: \_\_\_\_\_ 

It smells like: \_\_\_\_\_ 

It sounds like: \_\_\_\_\_ 

Two ways to cook or prepare it:

1. \_\_\_\_\_ 

2. \_\_\_\_\_

Eat it in a complete meal with the following ingredients or other healthy foods:

\_\_\_\_\_





## Main Ingredients

### Recommended Pacing:

**Session 1** (40 minutes) — First Taste

**Session 2** (40 minutes) — Digging In

**Session 3** (40 minutes) — Digesting It All

### Essential Question:

Why is it important to eat a variety of foods from all food groups?

### Learning Objectives:

*Students will be able to...*

- Identify what foods to eat more of and explain that nutrients in food help us grow and stay healthy.
- Name at least three reasons why it is important to eat foods from all five food groups for a healthy diet.
- Apply their knowledge of healthy foods and food groups to create a healthy meal or snack.

### Subject Connections:

English Language Arts, Math, Health, Science

### Materials & Preparation:

- Dry measuring cup (1 cup and  $\frac{1}{2}$  cup), plates and bowls for displaying food
- Various fruits, vegetables, and cooked grains to show amounts (1  $\frac{1}{2}$  cups of each type). For example, pineapple chunks, sliced or baby carrots, cooked brown rice, cooked pasta
- 5 quarters, 10 pennies
- 1 slice of whole-wheat bread
- Poster board and art supplies
- Computer, CD or MP3 player with speakers
- **Original Song & Lyrics:** *Do/Be* (make copies of lyrics for students)
- **Student Reproducible 1:** *Snack of Champions*
- **Student Reproducible 2:** *Measuring Up MyPlate*

## You Be the Chef

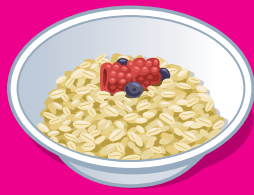
### What's Cooking?

In this lesson, students will build upon their understanding of healthy eating. Students will participate in creative activities that meet curriculum standards in English Language Arts, Math, Science, and Health as they learn how eating a variety of foods from all five food groups will give them the nutrients they need to grow, stay healthy, and be their best.

### FIRST TASTE: Engage (40 minutes)

1. Begin by playing the song *Do/Be*, and ask students to listen to it carefully. Ask them to share what they learned from the song. Accept all answers and list them on the board in two columns under “Do” and “Be.”
2. Add the word “nutrient” on the board and ask students to explain what they think it means. Explain that a nutrient is something found in food that your body uses to grow and stay healthy. Different nutrients do different things for our bodies and help us be healthy. Play the song again, this time passing out lyric sheets so students can sing along. The song lyrics give us examples of benefits the nutrients in foods can give us. (*Giving us energy to play hard, strengthening our bones and muscles, keeping us healthy, keeping our skin glowing*)
3. Ask students to add to the list on the board of what nutrients can help us “Do.” Why do we need and want energy? For example, we need energy to blink, breathe, walk, and think. We also need energy to play sports, dance, be creative, do our homework well, and hang out with our friends. What can students add to the “Be” column? What are some additional benefits that nutritious foods can give us?





# TEACHER'S Morsel

4. How can we get a variety of nutrients? Remind students to think back to what they learned from the first lesson and *Alive With 5 Food Groups*. What were some of the tips they came up with to make healthy food choices? How can they make a nutritious meal?

*(By making healthy choices from all five food groups, we are more likely to get the nutrients we need to help us do what we want and need to do, better. Mixing things up — meaning eating different types of foods within each food group — is also important. Different foods give us different nutrients. Most people need to eat more dark-green, red, and orange vegetables; beans and peas; whole grains; and low-fat milk and other milk products.)*

5. **\*Optional:** Divide the class into groups of four to five students. Have them work together to create a song called *Eat Smart To Play Hard*. They can sing it to the tune of *Do/Be* or to the tune of their favorite song. As creative prompts, ask students:
- To think about their own lives. How can healthy food choices help them be their best? Do their best?
  - To tell what additional benefits can a healthy meal give them?
  - To be creative and descriptive with their language. Can they also make their lyrics rhyme?
6. Provide each group with a poster board to write down its lyrics. Then have each group display its poster when it performs its song to the rest of the class. \*If not completing step 5, have students write down and illustrate their tips from step 4 onto posters.

## DIGGING IN: Explore (40 minutes)

### Snack of Champions

7. Explain that today they must imagine they are all professional chefs. Their challenge is to create a fun and healthy Snack of Champions for members of the U.S. Olympic team! They will have to create a recipe for a snack that will not only be healthy and nutritious, but will taste good too.
8. Divide the class into teams of four. Start brainstorming with students by asking them what they should keep in mind when creating a snack for the athletes. Explain that professional athletes need healthy meals with nutrients, just like the students do, so they can have the energy and strength to perform well. What else do students think is important in order to create a healthy snack? *(Creating a snack using foods from different food groups helps makes a snack with lots of different nutrients. It also makes your snack more interesting and fun.)*
9. Pass out the *Snack of Champions* handout to each team. Ask a volunteer to read the instructions at the top of the page. Explain that each team will use the foods in the chart to create a recipe for its “Snack of Champions.” It also needs to come up with a creative name for its snack. Finally, it must be able to explain why it chose the foods that it did.
10. Before the teams get to work on their snacks, you may want to share the following example of a recipe for a healthy snack called *PB Power Fruit-Wich*. Alternatively, you might want to develop your own creative recipe with the class as an example of the exercise.

The **Grain Group** is divided into **whole grains** and **refined grains**. Most people need to eat more whole and fewer refined grains. The snack activity is a great way to get students thinking about how they could replace refined grains with whole grains (such as using 100% whole-wheat bread in place of white bread, or light or low-fat popcorn instead of pretzels).

**Snack-Tasting Party:** Prepare the snack recipes with your students (or enlist the help of school food service staff, guest chef, or a nutritionist). Then have a tasting party, where everyone gets to try each recipe. Ask tasters to describe the snack in detail on a comment card, using their five







# TEACHER'S Morsel

**Weighing Options:** Have students weigh typical portions of baked goods to determine the number of ounces. Students may be surprised to see that a popular muffin provides 3-ounce equivalents of grains or more. This activity can also be used to show students that a cooked hamburger or chicken breast the size of a deck of cards weighs about 3 ounces. To learn more about what counts as an ounce from the Protein Foods Group and the Grain Group, visit

<http://www.chooseMyPlate.gov/food-groups/>.

## PB Power Fruit-Wich

(Makes 1 open-faced sandwich)

1 slice whole-wheat bread

2 tablespoons (Tbsp) peanut butter

1/4 apple or banana, thinly sliced

(Optional) 2 Tbsp sliced or grated carrot

1. Spread 2 Tbsp peanut butter on bread
  2. Place fruit slices on top
  3. (Optional) Top with grated or sliced carrot
- Chase down this snack with low-fat milk.

11. Give students time to brainstorm different ideas. Teams should decide on a recipe (including the ingredients and steps needed to make the snack), come up with a creative name for their snack, and then create a poster advertising their Snack of Champions. Their poster must include at least three reasons why the Olympic team should choose their snack. Reasons do not have to be health-related, but can also include things like convenience, taste, "cool" factor, texture.
12. Ask each group to present its snack recipe and poster to the class.

## DIGESTING IT ALL: Explain, Evaluate

(40 minutes)

### Measuring Up MyPlate

13. Create and print a sample **MyPlate** Daily Food Plan for a typical student at: <http://www.chooseMyPlate.gov/myplate/index.aspx>. Enter the age, gender (male or female), and physical activity level (moderately active is 30 to 60 minutes per day). The food plan will show the amount of food students need from each food group each day. The amounts of foods are listed in cups for fruits, vegetables, and dairy, and in ounce equivalents for grains and protein foods. It can be hard to picture what these amounts of foods might look like over the day.

**Volume:** Show students what 1/2 cup of fruits, vegetables, and cooked grains looks like. Use a measuring cup and then display the food on a plate or in a bowl. Have students measure 1 cup to

compare. How does this look in relation to 2/3 or 3/4 of a cup?

**Weight:** An ounce is a measure of weight. How much does an ounce feel like? Provide students with the following to hold in their hand: a 1-ounce piece of bread, 5 quarters, or 10 pennies. Explain that 1/2 cup of cooked pasta or rice is equal to 1 ounce. Have students look again at the 1/2 cup of pasta on the plate. Is that the amount they usually eat? Your pasta at lunch might actually provide a full cup of grains, or 2 ounces.

14. Explain that students will continue in their roles as chefs and work in groups of four. Their next challenge is to figure out a full day of meals for Lucia, a moderately active 9-year-old girl.

Lucia needs to eat the following amounts of food from each food group every day to give her the energy and nutrients to do what she needs and wants to do.

Write this information out on the board for students to see:

Vegetables	2 cups
Fruits	1.5 cups
Grains	5 ounces (half of these should be whole grains)
Protein	5 ounces
Dairy	3 cups



# FOOD FOR Thought

15. Distribute the *Measuring Up MyPlate* handout to each team. Students will use this to create a meal and snack plan for Lucia, identifying what she will eat and how much. Students need to work together to ensure that:

- Lucia gets the right amounts of food in each food group.
- Lucia gets a variety of foods from all of the food groups.

Tell students that this activity will require discussion between the group members. They will also need to use math to calculate the amounts of food for Lucia's menu.

16. When the groups have finished creating the meals, have them present Lucia's menu to the class. Ask each group member to explain how he/she chose his/her foods and why. While presenting, make sure the groups explain how the meals meet Lucia's food needs. Finally, have them share what they learned. Was there anything that surprised them? (For example, they may have been surprised to discover how many fruits and vegetables are needed in a daily meal plan.) Explain to students that, depending on their age, gender, and level of physical activity, they may need more or less of a food than Lucia does each day. For example, a moderately active 10-year-old boy would need an additional ounce of bread and  $\frac{1}{2}$  cup of vegetables each day.

## SAVOR THE LEARNING: Elaborate Cafeteria:

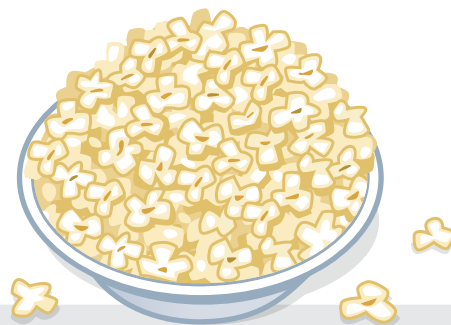
- Ask the school food service director to visit the classroom and discuss the amounts from each food group that are provided as part of the school lunch. Have students graph how eating the school lunch helps Lucia meet her daily meal plan.
- Ask students to give an impromptu performance of *Alive With 5 Food Groups* or *Do/Be* for other students and teachers during lunch.

Skip the premade trail mix or granola, and make your own! Use your favorite nuts and dried fruits like unsalted peanuts, cashews, walnuts, or sunflower seeds mixed with dried apples, pineapple, cherries, apricots, or raisins. Add whole-grain cereals to the mix.

### At Home:

- Have students create an illustration of their snack recipes. Compile all the recipes the student chefs created in the activity, along with the artwork, to create a Snack for Champions Cookbook to share with families, other students, and the rest of the school.

**Note:** This meets English Language Arts writing standards for the lesson.



## EXTRA HELPINGS: Elaborate

(30 minutes)

**The Hunt for Whole Grains.** Where can students find whole grains at school? Have students go on a scavenger hunt. First, have them make a checklist with two columns with examples of refined grains and examples of whole grains. Use the **MyPlate** poster and <http://www.chooseMyPlate.gov/food-groups/grains.html> as a resource. Next, have students split up in teams and search the school for whole grains. When they come back, have them report what whole-grain examples they found, and where.

# SNACK OF Champions

SECOND COURSE • REPRODUCIBLE 1



Name: \_\_\_\_\_ Date: \_\_\_\_\_

You have been asked to create an original “Snack of Champions” recipe for the athletes of the U.S. Olympic team. Remember to refer to the *MyPlate* icon as a guide when creating your healthy recipe. Use the chart below to help you get started. It lists some healthy food options for each food group. Be creative. Try to incorporate at least three food group ingredients and a whole grain. Think like a champion!

VEGETABLES	FRUITS	WHOLE GRAINS	PROTEIN	DAIRY
broccoli	oranges	brown rice	chicken breast	fat-free milk
sweet potatoes	apples	oatmeal	almonds	low-fat fruit yogurt
spinach	watermelon	popcorn	salmon	plain yogurt
carrots	bananas	whole-wheat bread	lean beef steak	low-fat cottage cheese
tomatoes	grapes	whole-wheat crackers	hard-boiled egg	low-fat mozzarella stick
black beans	strawberries	whole-wheat pasta	sunflower seed butter	soy milk (with calcium)
hummus	peaches	whole-wheat cereal	pinto beans	low-fat cheddar cheese
Romaine lettuce	raisins	whole-wheat tortillas	lean turkey slices	low-fat frozen yogurt
red peppers	blueberries	quinoa	tofu	low-fat American cheese

1. What will you call your Snack of Champions? \_\_\_\_\_

2. Write out your healthy snack recipe. First, list all the ingredients. Then explain the steps that are needed to make it.

Ingredients: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

How To Make It: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



3. Explain why you chose these foods for your snack recipe. What benefits will they give an Olympic athlete?

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



# MEASURING UP MyPlate

SECOND COURSE • REPRODUCIBLE 2



Name: \_\_\_\_\_ Date: \_\_\_\_\_

Lucia needs your help to eat smart and play hard. On the chart below, circle foods and drinks for her for 1 day. On another piece of paper, write a menu for her meals and snacks using the foods you circled. Lucia is a moderately active 9-year-old girl. She needs to eat the following amounts from each food group each day:



**Vegetables**  
2 cups



**Fruits**  
1 1/2 cups



**Grains**  
5 ounces



**Protein Foods**  
5 ounces



**Dairy**  
3 cups

Add up the amounts of foods in each food group your circled food choices provide. Do the meals and snacks you planned give her what she needs for the day?

Note: "oz" is the abbreviation for ounce.

VEGETABLES	FRUITS	GRAINS	PROTEIN	DAIRY
small bowl of romaine lettuce (1/2 cup)	small orange (1/2 cup)	2 slices whole-wheat bread (2 oz whole grains)	slice of turkey (1 oz)	glass fat-free milk (1 cup)
small bowl spinach (1/2 cup)	small apple (1/2 cup)	5 whole-wheat crackers (1 oz whole grains)	1 hard-boiled egg (1 oz)	2 slices low-fat Swiss cheese (1 cup)
medium baked potato (1 cup)	large banana (1 cup)	1/2 cup cooked brown rice (1 oz whole grains)	1/2 cup cooked black beans (2 oz)	1.5 oz low-fat shredded cheddar cheese (1 cup)
12 baby carrots (1 cup)	16 grapes (1/2 cup)	packet of instant oatmeal (1 oz whole grains)	small hamburger patty (3 oz)	snack-size container low-fat yogurt (1/2 cup)
large sweet potato (1 cup)	mango (1 cup)	3 cups popped popcorn (1 oz whole grains)	small chicken breast half (3 oz)	1 fat-free milk chug (1 cup)
6 - 8 cherry tomatoes (1 cup)	large peach (1 cup)	medium piece of cornbread (2 oz refined grains)	12 almonds (1 oz)	slice low-fat American cheese (1/2 cup)
large ear of corn (1 cup)	large plum (1/2 cup)	small whole-wheat tortilla (1 oz whole grains)	small salmon patty (3 oz)	small low-fat milk carton (1 cup)
side of cooked collard greens (3/4 cup)	snack container of pineapple (1/2 cup)	1 slice white bread (1 oz refined grains)	2 slices ham (2 oz)	
side of cooked lentils (1/2 cup)	small bowl of blueberries (1/2 cup)	1 cup whole-wheat pasta (2 oz whole grains)	3 small turkey meatballs (2 oz)	
4 tablespoons tomato sauce (1/4 cup)	glass of 100% fruit juice (1 cup)	1 bowl low-fat granola (1 oz whole grains)	1 cup veggie chili (2 oz)	
<b>TOTAL CUPS:</b>	<b>TOTAL CUPS:</b>	<b>TOTAL OUNCES:</b>	<b>TOTAL OUNCES:</b>	<b>TOTAL CUPS:</b>





## Main Ingredients

### Recommended Pacing:

**Session 1** (50 minutes) — First Taste, Digging In (Part A)

**Session 2** (50 minutes) — Digging In (Part B, Part C)

**Session 3** (40 minutes) — Digesting It All

### Essential Question:

What are “sometimes” foods? Why are they called that? What can I eat instead?

### Learning Objectives:

*Students will be able to...*

- Identify foods that are high in solid fats and added sugars.
- Describe the benefits of limiting the consumption of solid fats and added sugars.
- Explain the concept of eating in moderation.
- Give examples of healthier food options to choose instead.

### Subject Connections:

Science, Math, Health, English Language Arts

### Materials & Preparation:

- Any three of the following: regular potato chips, French fries, bacon, hot dog, regular butter, chocolate chip cookies
- Any three of the following: banana slices, reduced-fat potato chips, apple slices, graham crackers, nuts
- 1 stick of butter
- 1/2 cup vegetable oil (e.g., corn oil)
- Straws
- 1 box of cane sugar
- Teaspoons
- Brown paper bags cut into squares
- Six beverages (12-oz can regular soda, 8-oz carton fat-free unflavored milk, 8-oz carton fat-free chocolate milk, 1 cup 100% orange juice, 1 cup lemonade, 1 cup water)
- Index cards to make labels
- **Student Reproducible 1:** *Experiment: Fats*
- **Student Reproducible 2:** *Experiment: Added Sugars*

## The Science of “Sometimes” Foods

### What’s Cooking?

Through hands-on experiments and lessons that meet standards in Math, Science, English Language Arts, and Health, students will learn about foods high in solid fats and added sugars and use the scientific method to make hypotheses and draw conclusions about how they affect our bodies.

### FIRST TASTE: Engage (20 minutes)

1. Begin by reminding students that we need foods from all food groups to get the nutrients we need to play hard, grow, and be healthy. Some foods within the food groups are healthier choices that we want to eat more often. These foods contain a lot of nutrients but not a lot of added sugars and solid fats. What are some examples of foods in each of the food groups that are healthier choices? *Vegetables and fruits (when prepared without adding solid fat or sugar), whole grains, fat-free and low-fat milk, yogurt and cheese, seafood, lean meats, chicken and turkey without the skin, eggs, beans and peas, and nuts and seeds.*
2. Ask students the **Essential Questions:** “Sometimes” foods? Why are they called that? Accept all answers. (*Students may offer answers such as cupcakes (Grain Group), ice cream (Dairy Group), lollipops (no food group), fried chicken or fish (Protein Foods Group), French fries (Vegetable Group), chocolate-covered raisins (Fruit Group).*)

Explain that in each food group, there are foods that are higher in solid fats or added sugars or both. For example, fried chicken belongs to the Protein Foods Group but it contains more solid fat (from the frying and the skin) than grilled, skinless chicken. Frosted breakfast cereal belongs to the Grain Group, but contains more added sugars than regular corn flakes. We call these foods “sometimes” foods because we want to eat these foods only **some** of the time and in **smaller** amounts. We want to choose foods lower in solid fats and added sugars **most of the time**. For example, we want to choose fat-free milk every day and have ice cream only sometimes, or as a special treat.

Ask students: In what food group do soda and candy belong? Explain that these foods are made up almost entirely of added sugars and/or solid fats. They do not contain enough of any nutrients to put them into a food group. Since these foods do not give our bodies what we need to play hard, grow, and be healthy, it’s best to eat them only as special “treats” and not every day.

3. Ask students to share ideas of *why* they think these foods should be eaten less. Eating too many solid fats and added







# TEACHER'S Morsel

sugars makes it harder to eat enough of the other foods we need to play hard, grow, and be healthy. These foods can make it harder to keep a healthy weight and have a healthy heart, and too many added sugars can also lead to more cavities.

## DIGGING IN: Explore (80 minutes)

- Split students into groups of four. Distribute the *Experiment: Fats* and *Experiment: Added Sugars* handouts. Explain that they will be conducting two experiments to learn more about solid fats and added sugars in food. In each case, they will have to first think about their hypothesis or guess, about the experiment outcome. They will then record results from each experiment and compare the results to their hypothesis and explain their conclusion. Set up as many stations as there are groups of students for each experiment.

### Part A: Solid Fats Experiment (30 minutes)

Please note that the *Solid Fats Experiment* will require a follow-up one day later.

#### Day 1:

- In this experiment, students will answer the questions: What foods have a higher fat content? Which contain heart-healthy liquid fats and which contain solid fats? Before you introduce the experiment, give groups a few minutes to discuss the questions, then ask each student to hypothesize, or make educated guesses, and write them down on his/her handout. **Note:** If students run out of room on their handout, have them use the back or a notebook for extra space.
- Explain that fats are an important nutrient in the body because they provide us with energy, promote healthy skin and growth, and help the body absorb some vitamins. However, there are different kinds of fats, and some are better than others. Ask students if they know the difference between **solid fats** and **liquid fats**. Can they identify any examples? (*Solid fats are not liquid at room temperature. Examples of solid fats are: butter, beef fat, chicken fat, pork fat, stick margarine, and shortening. Oils, or liquid fats, are liquid at room temperature. Examples of*

**Sugar Tip!** Check the ingredients list of a beverage or snack. If a type of sugar is in the first three ingredients, it is likely to have a lot of added sugars. Some other names of sugar are: high-fructose corn syrup, sucrose, dextrose, fructose, lactose, maltose, honey, anhydrous dextrose, brown sugar, confectioner's powdered sugar, and corn syrup.

**Oils:** Visit <http://www.chooseMyPlate.gov/food-groups/oils.html> to learn more about oils and how they are different from solid fats. Also, find a list of healthy oils to add to your meals.



*oils/liquid fats are: canola, corn, olive, soybean, and sunflower oils. A number of foods, such as nuts, olives, some fish, and avocados, are naturally high in heart-healthy oils.)*

- Do a quick demonstration to show the difference between the two kinds of fats. Put a couple of tablespoons of butter in one bowl, and pour some oil into another. Ask a volunteer to dip a straw into the oil and describe what they observe. Can they blow through the straw? (*Yes, quite easily*). Ask another student to dip a straw into the butter and describe what he/she observes. Is he/she able to blow through the straw? (*No, or not as easily as the straw with the oil*)
- Explain that liquid fats are healthier for our hearts than solid fats. Our hearts pump blood through our bodies using little tubes (like straws) called **arteries** and **veins**, which carry blood to the rest of our body parts. We need our heart and these tubes to be healthy so that our body functions well.
- It can be hard to tell what foods are higher in fat, including solid fats. You might be surprised at how much fat some foods have. Explain that students will now do an experiment to see which foods contain more fat.

First, show students what they will find at each station in order to carry out their experiment: unglazed brown-paper grocery bags cut up into 4-inch squares (at least six squares), and six of the following foods:



# TEACHER'S Morsel

**Natural vs. Added Sugars.** Sugars are found naturally in fruits (fructose) and milk and other dairy products (lactose). These naturally occurring sugars are part of the overall healthy package of nutrients that these foods provide. Added sugars, however, add calories but no nutrients to foods. That's why we are encouraged to eat foods with fewer added sugars. **Note:** The Nutrition Facts label provides only the total sugars (natural and added) in a food. You can find added sugars by looking at the ingredient list. Some other names for added sugars are: high-fructose corn syrup, sucrose, dextrose, fructose, lactose, maltose, honey, anhydrous dextrose, brown sugar, confectioner's powdered sugar, and corn syrup.

**Tip!** If it's in the first three ingredients, you can be sure that added sugar is a major ingredient.

- a. Any **three** of the following: regular potato chips, French fries, bacon, hot dog, regular butter, chocolate chip cookies
- b. Any **three** of the following: banana slices, reduced-fat baked potato chips, apple slices, graham crackers, nuts

Before starting the experiment, ask students to predict which food has the highest fat content, and which has the lowest. They should note these predictions on their handouts.

10. Students should first label each of the paper-bag squares with the name of a food they will be testing. Next, they will rub or crush a piece of the food onto the paper-bag square. Remind students to rub each food for the same amount of time (for example, rub the food back and forth across the paper square 10 times). Allow the paper bags to sit overnight. This way, any moisture caused by water content from the foods can evaporate, and what is left on the paper bag is fat only.

## Part B: Solid Fats Experiment (20 minutes)

### Day 2:

11. Students should check the results the following day. Which food left a grease/oil/fat spot? Ask: Which food has the highest fat content? Which foods have the lowest amounts of fat (a smaller or no grease spot)? How does this compare to their predictions? What conclusions can students draw about their own consumption of foods with high fat content from this experiment? Give students a few minutes to think about and write out their analysis and conclusions.
12. Conclude the experiment with a discussion allowing students to share their observations, predictions, and conclusions. Of these foods, are there any that you think might contain heart-healthy oils as the fat instead of solid fats? Nuts and seeds contain heart-healthy oils, as do some fish, avocados, and olives. Which of the foods tested have the lowest fat content? Fruits and vegetables tend to be naturally low in solid fats — unless solid fats are added during cooking (like putting butter on vegetables).

## Part C: Added Sugars Experiment (30 minutes)

13. Begin by asking students if they drink any beverages with added sugars. Explain that in this experiment, students will answer the question: Which beverage has the most teaspoons of added sugars? Display the following six beverages on a table: a 12-oz can of regular soda, an 8-oz carton of fat-free unflavored milk, an 8-oz carton of fat-free chocolate milk, a cup of 100% orange juice, 1 cup of lemonade, 1 cup of water.
14. After they have made their predictions, students will learn how many grams of added sugars are found in each beverage. Place cards that have been prepared beforehand in front of each beverage indicating the amount of added sugars in grams (*soda = 32g, fat-free unflavored milk = 0g, fat-free chocolate milk = 14g, orange juice = 0g, lemonade = 22g, water = 0g*) Have students write these numbers on their handout.
15. Next, they will calculate the equivalent amount in teaspoons. Give them the formula that 1 teaspoon of added sugar equals 4 grams. Therefore, they will need to divide the total amount of added sugars in grams by 4. They should do these calculations on their handouts. Once they have done their calculation, have them display the amount of added sugar in each drink by measuring out the teaspoons and pouring them into a dish next to each drink. Allow students to note their analyses and conclusions of the experiment on their handouts.

# FOOD FOR Thought



16. Are any of these results surprising? Were their predictions correct? What does this tell them about the amount of added sugar they consume? Ask students to share some of the effects of drinking so much added sugar each day. (*For example: tooth decay, cavities, or a lack of nutrients*)
17. What are some healthier beverages students can choose instead? Ask each group to create a flavorful, healthy alternative with little or no added sugars. Possibilities could include seltzer water and fruit slices, or water with lemon, or milk with vanilla and a sprinkle of cinnamon. Have them share their ideas with the class.

## DIGESTING IT ALL: Explain, Evaluate (40 minutes)

18. Now that students have learned more about “sometimes” foods (foods with added sugars and solid fats), tell them that their final task is to communicate tips on healthier options to eat *instead*. Ask students to think about what they love about their favorite snack or treat. Is it the taste? (*For example, the sweetness of a cookie*) Or is it the texture? (*For example, the crunch of a potato chip*) If it’s a food that has a lot of added sugars or solid fat, how can they modify it to be healthier but just as delicious? (*For example, for crunch, choose a sliced apple or whole-grain cracker, and for sweetness, try fruit.*) Working in groups still, allow students to choose from the following options on how they wish to communicate their ideas:

- A colorful poster or collage
- A song or poem
- A short play or skit

Regardless of what they choose, each group must offer six ideas (three for added sugars, three for solid fats) of healthier food options.

19. Give students time to prepare, and then let them share their projects with the rest of the class and explain their suggestions. Invite other classes or parents to learn more about healthy “What Instead” tips.

• **Beverages count!** Children consume an average of 400 calories per day from beverages. Soda and sports drinks are the number one source of added sugars in the diets of Americans.

• **Dairy Drinks:** Whole milk and reduced-fat milk (2%) contain solid fats. Fat-free (skim) and low-fat (1%) milk contain the same nutrients as whole milk, but without all of the solid fats.



## SAVOR THE LEARNING: Elaborate

### At School:

- Invite the coach or physical education teacher to talk to the class about drinking water instead of sugary drinks during sports. A glass of low-fat milk is also a great way to refuel after play. Save sports drinks for prolonged, vigorous physical activity (such as running) lasting more than an hour or for when playing in the heat.

### At Home:

- Share tips and student ideas with parents on healthy sweet treats and ideas of substitutions for fatty foods. Share the following link as a helpful resource for parents: <http://www.choosemyplate.gov/food-groups/downloads/TenTips/DGTipsheet13CutBackOnSweetTreats.pdf>.

Do they have any suggestions they can contribute and share with the class?

- Have students track the number of minutes they spend in front of the TV and computer at home for 1 day. After they report their amounts back to the class, add everyone’s minutes together to see how much time is spent inactive each day. Ask students to brainstorm ideas for being more active at home.

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# EXPERIMENT: Fats

THIRD COURSE • REPRODUCIBLE 1



Name: \_\_\_\_\_ Date: \_\_\_\_\_

You will be conducting **two** experiments with fats and added sugars. You will be using the **Scientific Method** to answer the questions in these activities.

For each experiment:

1. Write the name of the food or beverage in the correct box.
2. Make a **hypothesis**, or an “educated guess,” answering each question.
3. Conduct the experiments in your groups. Write down your observations carefully.
4. Analyze the results of the experiments and answer the original question. Compare the result to your hypothesis.
5. Complete the reflection questions. Use your notebook if you need more space to write.



**Question:** What foods have a higher fat content? Which contain heart-healthy liquid fats and which contain solid fats?

**My Hypothesis:**

Food item 1	Food item 2	Food item 3	Food item 4	Food item 5	Food item 6
-----	-----	-----	-----	-----	-----

**Experiment Procedures:** (Write down the steps in conducting your experiment.)

**My Observations:** (What do you notice, see?)

Food item 1	Food item 2	Food item 3	Food item 4	Food item 5	Food item 6

**Analysis and Conclusion:** (Think about what your observations mean and answer the original question again.)

**My Reflection:** (What did you discover? What was surprising? What do you still want to know?)



# EXPERIMENT: Added Sugars

THIRD COURSE • REPRODUCIBLE 2



Name: \_\_\_\_\_ Date: \_\_\_\_\_

Use your notebook if you need more space to write.

<b>Question:</b> Which beverage has the most added sugars?					
<b>My Hypothesis:</b>					
<b>How many teaspoons (tsp) of added sugar do you think are in each beverage?</b>					
<b>Beverage 1</b>	<b>Beverage 2</b>	<b>Beverage 3</b>	<b>Beverage 4</b>	<b>Beverage 5</b>	<b>Beverage 6</b>
_____	_____	_____	_____	_____	_____
tsp	tsp	tsp	tsp	tsp	tsp
<b>Experiment Procedures: How many total grams (g) of added sugar are in each?</b>					
<b>Beverage 1</b>	<b>Beverage 2</b>	<b>Beverage 3</b>	<b>Beverage 4</b>	<b>Beverage 5</b>	<b>Beverage 6</b>
_____	_____	_____	_____	_____	_____
g	g	g	g	g	g
1 tsp equals 4 g of sugar. Divide the total g of added sugar by 4. <b>How many tsps of added sugar are in each beverage?</b>					
<b>Beverage 1</b>	<b>Beverage 2</b>	<b>Beverage 3</b>	<b>Beverage 4</b>	<b>Beverage 5</b>	<b>Beverage 6</b>
_____	_____	_____	_____	_____	_____
tsp	tsp	tsp	tsp	tsp	tsp
<b>My Observations:</b> (What do you notice, see?)					
<b>Analysis and Conclusion:</b> (Think about what your observations mean and answer the original question again.)					
<b>My Reflection:</b> (What did you discover? What was surprising? What do you still want to know?)					





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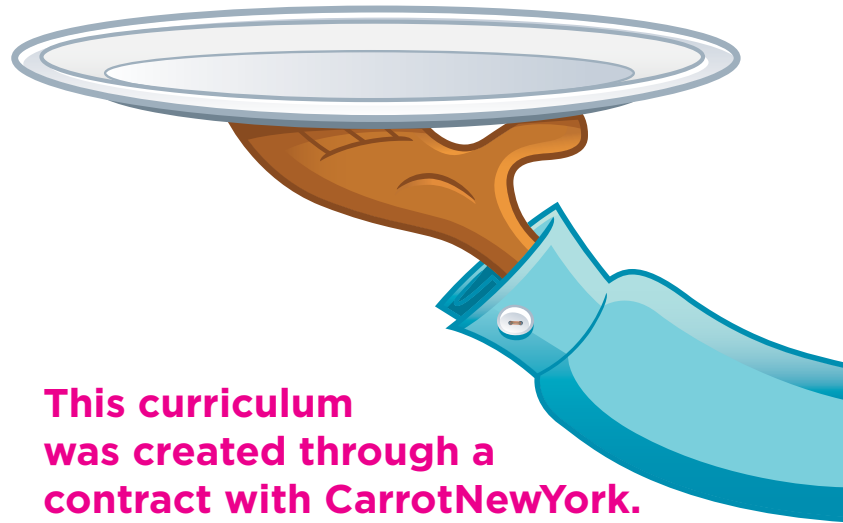
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